****
SPACE GATEWAY SUPPORT (SGS) **SGS-02 41 00.00 99 (November 2006)**

Preparing Activity: SGS-DE **Superseding SGS-02 41 00.00 99 (April 2006)**

SGS GUIDE SPECIFICATIONS

References are NOT in Agreement with UMRL dated 09 October 2006

Revised throughout - changes not indicated by CHG tags
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SECTION 02 41 00.00 99

DEMOLITION
11/06

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NOTE: Delete, revise, or add to the text in this section to cover project requirements. Notes are for designer information and will not appear in the final project specification.

This broadscope section covers the demolition, dismantling, reconditioning and disposal of existing building materials, equipment and utilities.

Brackets are used in the text to indicate designer choices or locations where text must be supplied by the designer.
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PART 1 GENERAL

1.1 REFERENCES

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NOTE: This paragraph is used to list the publications cited in the text of the guide specification. The publications are referred to in the text by basic designation only and listed in this paragraph by organization, designation, date, and title.

Use the Reference Wizard's Check Reference feature when you add a RID outside of the Section's Reference Article to automatically place the reference in the Reference Article. Also use the Reference Wizard's Check Reference feature to update the issue dates.

References not used in the text will automatically be deleted from this section of the project specification when you choose to reconcile references in the publish print process.
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The publications listed below form a part of this section and the work requirements:

AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO)

AASHTO M 145	(1991; R 2003) Classification of Soils and Soil-Aggregate Mixtures for Highway Construction Purposes
AASHTO T 180	(2001; R 2004) Moisture-Density Relations of Soils Using a 4.54-kg (10-lb) Rammer and a 457-mm (18-in) Drop

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

ANSI A10.6	(1990; R 1998) Safety Requirements for Demolition Operations

U.S. ARMY CORPS OF ENGINEERS (USACE)

EM 385-1-1	(2003) U.S. Army Corps of Engineers Safety and Health Requirements Manual

U.S. FEDERAL AVIATION ADMINISTRATION (FAA)

FAA AC 70/7460-1	(2003; Rev K; Change 1) Obstruction Marking and Lighting

U.S. NATIONAL ARCHIVES AND RECORDS ADMINISTRATION (NARA)

40 CFR 61-SUBPART M	(2006) National Emission Standard for Asbestos

1.2 GENERAL REQUIREMENTS

Do not begin demolition until authorization is received from the SGS Subcontract Administrator. Remove rubbish and debris from the project site; do not allow accumulations outside the building. The work includes demolition, salvage of identified items and materials, and removal of resulting rubbish and debris. Remove rubbish and debris from Government property daily, unless otherwise directed, to avoid accumulation at the demolition site. Store materials that cannot be removed daily in areas specified by the SGS Subcontract Administrator. In the interest of occupational safety and health, perform the work in accordance with EM 385-1-1, Section 23, Demolition, and other applicable sections.

1.3 SUBMITTALS

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NOTE: Review submittal description (SD) definitions in Section 01 33 00 SUBMITTAL PROCEDURES and edit the following list to reflect only the submittals required for the project. Keep submittals to the minimum required for adequate quality control. Include a columnar list of appropriate products and tests beneath each submittal description.

A "G" following a submittal item indicates that the

submittal requires Government approval. Some submittals are already marked with a "G". Only delete an existing "G" if the submittal item is not complex and can be reviewed through the Contractor's Quality Control system. Only add a "G" if the submittal is sufficiently important or complex in context of the project.

For submittals requiring Government approval on Army projects, a code of up to three characters within the submittal tags may be used following the "G" designation to indicate the approving authority. Codes for Army projects using the Resident Management System (RMS) are: "AE" for Architect-Engineer; "DO" for District Office (Engineering Division or other organization in the District Office); "AO" for Area Office; "RO" for Resident Office; and "PO" for Project Office. Codes following the "G" typically are not used for Navy, Air Force, and NASA projects.

Submittal items not designated with a "G" are considered as being for information only for Army projects and for Contractor Quality Control approval for Navy, Air Force, and NASA projects.

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Submit the following in accordance with Section 01 33 00 SUBMITTAL PROCEDURES in sufficient detail to show full compliance with the specification:

SD-01 Preconstruction Submittals

Record Existing Conditions prior to starting work in accordance with the paragraph entitled, "Existing Conditions," of this section.

Submit interruption of the following:

Utility Outages
Traffic Interruptions

SD-07 Certificates

Submit a detailed Demolition Plan of the work procedures and safety precautions to be used prior to the beginning of work.

Submit a detailed report of scrap metal materials.

1.4 REGULATORY AND SAFETY REQUIREMENTS

Comply with federal, state and local hauling and disposal regulations. In addition to the requirements of the Subcontract Clauses," safety requirements must conform with ANSI A10.6.

1.4.1 Notifications

1.4.1.1 General Requirements

Furnish timely notification of demolition projects to Federal, State, regional and local authorities in accordance with 40 CFR 61-SUBPART M. Notify the SGS Subcontract Administrator in writing 10 working day prior to the commencement of work in accordance with 40 CFR 61-SUBPART M.

1.5 DUST AND DEBRIS CONTROL

Prevent the spread of dust and debris to the occupied portions of the building and avoid the creation of a nuisance or hazard in the surrounding area. Do not use water if it results in hazardous or objectionable conditions such as, but not limited to, ice, flooding or pollution.

1.6 PROTECTION

1.6.1 Traffic Control Signs

Where pedestrian and driver safety is endangered in the area of removal work, use traffic barricades with flashing lights. Notify the SGS Subcontract Administrator prior to beginning such work.

1.6.2 Existing Work

Before beginning and demolition work, survey the site and examine the drawings and specifications to determine the extent of the work. Take necessary precautions to avoid damage to existing items to remain in place, to be reused, or to remain the property of the Government; repair or replace any damaged items as approved by the SGS Subcontract Administrator. Coordinate the work of this section with all other work and construct and maintain shoring, bracing and supports as required. Ensure that structural elements are not overloaded and increase structural supports or add new supports as required as a result of cutting, removal or demolition work performed under this subcontract. Do not overload structural elements. Provide new supports and reinforcement for existing construction weakened by demolition or removal work. Repairs, reinforcement or structural replacement must have the approval of the SGS Subcontract Administrator.

1.6.3 Weather Protection

For portions of the building to remain, protect building interior and materials and equipment from the weather at all times. Where removal of existing roofing is necessary to accomplish work, have materials and workers ready to provide adequate and temporary covering of exposed areas so as to ensure effectiveness and to prevent displacement.

1.6.4 Protection of Personnel

During the demolition work, continuously evaluate the condition of the structure being demolished and take immediate action to protect all personnel working in and around the demolition site. No area, section or component of structural element is allowed to be left standing without sufficient bracing, shoring or lateral support to prevent collapse or failure while workers remove debris or perform other work in the immediate area.

1.7 BURNING

The use of burning at the project site for the disposal of refuse and debris is not permitted.

1.8 RELOCATIONS

Perform the removal and reinstallation of relocated items as directed with workers skilled in the trades involved. Repair items which are damaged or replace damaged items with new undamaged items as approved by the SGS Subcontracting Administrator. Test all items to remain for function and report to the SGS Subcontract Administrator.

1.9 REQUIRED DATA

Demolition plan must include procedures for careful removal and disposition of materials specified to be salvaged and coordination with other work in progress. Include statements affirming Subcontractor inspection of the existing roof deck and its suitability to perform as a safe working platform or if inspection reveals a safety hazard to workers, state provisions for securing the safety of the workers throughout the performance of the work. The procedures must provide for safe conduct of the work in accordance with EM 385-1-1.

1.10 ENVIRONMENTAL PROTECTION

The work must comply with the requirements of Section 01 35 43.00 99 ENVIRONMENTAL PROCEDURES.

1.11 USE OF EXPLOSIVES

Use of explosives is not permitted.

1.12 DEMOLITION PLAN

Prepare and submit a detailed Demolition Plan of the work procedures and safety precautions to be used in the identification, demolition, handling, removal, transportation, and reclamation or disposal of removed materials. Meet with the Contracting Officer, prior to beginning work, to discuss in detail the demolition plan.

1.13 EXISTING CONDITIONS

Existing Conditions must be recorded in the presence of the Contracting Officer showing the condition of structures and other facilities adjacent to areas of alteration or removal. Such record must contain the elevation of the top of foundation walls, the location and extent of cracks and other damage and description of surface conditions that exist prior to the start of work. Submit copies of the record and verify the stated conditions before starting work.

1.14 UTILITY OUTAGES

Submit written approval by the Contracting Officer for interruption of service Utility Outages and Traffic Interruptions at least [48] [_____] hours prior to work.

PART 2 PRODUCTS

2.1 FILL MATERIAL

Fill material must conform to the definition of satisfactory soil material as defined in AASHTO M 145, Soil Classification Groups A-1, A-2-4, A-2-5 and A-3. In addition, fill material must be free from roots and other organic matter, trash, debris, frozen materials, and stones larger than 2 inches [50 millimeter] in any dimension.

Proposed fill material must be sampled and tested by an approved soil testing laboratory, as follows:

Soil classification	AASHTO M 145
Moisture-density relations	AASHTO T 180, Method B or D

PART 3 EXECUTION

3.1 DISCONNECTING EXISTING UTILITIES

[Prior to the start of work, the Government will disconnect and seal the utilities serving each area of alteration or removal.]

[Prior to the start of work, utilities serving each area of alteration or removal will be shut off by the Government and must be disconnected and sealed by the Subcontractor.]

3.2 TEMPORARY UTILITY SERVICES

Install temporary utility services before disconnecting existing utilities. Provide a minimum of 2 aviation red or high intensity white obstruction lights on temporary structures (including cranes) over 100 feet [30 meter] above ground level. Light construction and installation must comply with FAA AC 70/7460-1. Lights must be operational during periods of reduced visibility, darkness, and as directed by the Contracting Officer. Maintain the temporary services during the period of construction and remove only after permanent services have been installed and tested and are in operation.

3.3 PRECAUTION AGAINST MOVEMENT

Provide shoring and bracing or other supports to prevent movement, settlement, or collapse of facilities that are to remain which are adjacent to areas of alteration and removal.

3.4 DEMOLITION AND REMOVAL WORK

3.4.1 Demolition

3.4.1.1 Concurrent Earth-Moving Operations

Do not start excavation, filling, and other earth-moving operations that are sequential to demolition work in areas occupied by structures to be demolished until all demolition in the area has been completed and debris has been removed.

3.4.1.2 Buildings

Demolishing or removing buildings is subject to the approval of the Government and of the highway authorities having jurisdiction.

Demolition must proceed in a systematic manner from the top of the structure to the ground. Complete demolition work above each tier or floor before the supporting members on the lower levels are disturbed. Demolish concrete and masonry walls in small sections. Remove and lower framing members by means of derricks, platform hoists, or other approved method.

Buildings, or the remaining portions thereof, not exceeding 80 feet [25 meter] in height may be demolished by the mechanical method of demolition.

Concrete slabs must be broken up and removed.

3.4.1.3 Below-Grade Construction

[Demolish foundation walls to a depth of not less than 12 inches [305 millimeter] below the existing ground surface. In addition, demolish and remove below-grade wood and metal construction and floor construction, except basement concrete slabs on ground.]

[Demolish and remove foundations, basement concrete slabs on ground footings, and other below-grade construction.]

3.4.1.4 Filling Basements and Voids

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NOTE: Delete paragraph heading and the following paragraphs when excavation, fill, backfill, or other earthwork is included in this contract.
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Basements and voids resulting from the demolition of structures must be completely filled with specified fill material and graded.

Prior to filling, basements and voids must be free of standing water, frost, frozen material, trash, and debris.

Place fill material in horizontal layers not to exceed [_____] [12] inches [300] millimeter in loose depth. Compact each layer to a minimum of [95] [_____] percent of the maximum density as determined by AASHTO T 180, Method D, at optimum moisture content.

After fill has been placed, grade the surface of the fill to meet adjacent contours and to provide surface water drainage.

3.4.2 Protective Measures

Do not disturb existing construction beyond the extent indicated or necessary for installation of new work. Provide temporary shoring and bracing for support of building components to prevent settlement or other movement.

Provide protective measures to control accumulation and migration of dust and dirt in all areas of work. Remove dust, dirt, and debris daily from the areas of work.

3.4.3 Salvageable Materials and Equipment

Government will designate materials and equipment to be salvaged.

Remove salvageable materials and equipment in a manner that causes the least possible damage thereto. Handle, store, and protect removed items that are to be reused in the work or are to be retained by the Government.

Provide identification tags on items boxed or placed in containers, indicating the type, size, and quantity of materials.

3.4.4 Scrap Metal

[Transport scrap metal to DRMO and stockpile in designated areas, according to type of metal.] Submit weight quantities of scrap metal materials, by type of metal, to Contracting Officer.

[Scrap metal becomes the Subcontractor's property and must be removed from the site as it accumulates.]

3.4.5 Site Work

Remove and store chain link fencing, gates, and other salvaged items. Remove gates as whole units. Cut chain link fabric to lengths of [_____] [25] feet [7] meter and store in rolls off the ground.

3.4.6 Buildings and Structures

Perform specified removal operations in existing buildings as required to complete the work.

Concrete:

Demolish, remove and dispose of existing concrete. Provide square, straight edges where existing concrete adjoins new work and other locations. Protect where indicated or cut off steel reinforcement flush with face of concrete.

Masonry:

Demolish and remove all masonry construction.

Masonry units for reuse must be removed, cleaned, and stacked off the ground on wood pallets. Salvaged masonry units not reused in the work remain the property of the Government. Consider as debris and dispose of units unsuitable for reuse. Transport salvaged masonry units for storage to a location as directed by the Contracting Officer.

Structural steel:

Dismantle steel components at field connections and in a manner that prevents bending or damage.

[Do not use flame-cutting torches.]

[When approved, flame-cutting torches may be used where other methods of dismantling are not practical.]

Transport trusses and joists as whole units and do not dismantle.

Transport structural steel to designated storage area, stack according to size, type of member and length, and store off the ground and protect from the weather.

Miscellaneous metals:

Salvage shop-fabricated items such as access doors and frames, steel gratings, metal ladders, wire mesh partitions, metal railings, and similar items as whole units.

Salvage light-gage metal items, such as metal gutters, roofing and siding, and similar items, unless designated as scrap metal by the Contracting Officer.

Carpentry:

Salvage lumber, millwork items, and finished boards, except those that are unfit for reuse.

Remove windows, doors and frames, and similar items as units, complete with trim and accessories. Leave hardware intact and attached to units, except remove door closers. Brace open end of door frames to prevent damage thereto.

Classify gypsum board, fiberboard, and other composition sheathing boards as debris to be removed and disposed of.

Remove demountable partitions, built-in furniture, toilet partitions, lockers, and other prefabricated units in sections and salvage.

Classify bolts, nuts, washers, timber connectors, and other rough hardware as debris and dispose of.

Transport salvaged items to designated storage area and store as directed by the Contracting Officer.

Miscellaneous items:

Remove and salvage chalkboards, tackboards, toilet-room accessories, and similar surface-mounted items as whole units, complete with all accessories.

Remove and salvage venetian blinds, complete with hardware items which must be packaged and attached thereto.

Transport salvaged items to designated storage area and store as directed by the Contracting Officer.

3.4.7 Mechanical Equipment and Fixtures

Disconnect mechanical hardware at the nearest convenient connection to existing services that are to remain.

Salvage each item of equipment and fixtures as a unit; list, index, tag, and store. Salvage each unit with its normal operating auxiliary equipment.

Do not remove equipment until approved.

Disconnection from utilities:

Disconnect mechanical equipment and fixtures at fittings. Remove service valves and attach to the unit.

Preparation for storage:

Remove water, dirt, dust, and foreign matter from units; drain tanks, piping and fixtures; and steam clean interiors, if previously used to store flammable, explosive, or other dangerous liquids. Seal openings with caps, plates, or plugs.

Motors attached by flexible connections must be secured to the unit.

Charge lubricating systems with the proper oil or grease.

Piping:

Disconnect piping at unions, flanges and valves, and fittings as required to reduce the pipe into straight lengths for practical storage. Store salvaged piping according to size and type. If the piping that remains can become pressurized due to upstream valve failure, end caps, blind flanges, or other types of plugs or fittings with a pressure gage and bleed valve must be attached to the open end of the pipe to ensure positive leak control.

Carefully dismantle piping that previously contained gas, gasoline, oil, or other dangerous fluids with precautions taken to prevent injury to persons and property. Store such piping outdoors until all fumes and residues are removed.

Box prefabricated supports, hangers, plates, valves, and specialty items according to size and type. Individually wrap sprinkler heads in plastic bags before boxing.

Piping not designated for salvage, or not reusable, must be considered as scrap metal.

Ducts:

Classify removed duct work as scrap metal.

Fixtures:

Remove and salvage fixtures associated with plumbing, heating, air conditioning, refrigeration, and other mechanical system installations. Tag fixture units for identification, storage, and protection from damage.

Classify broken, damaged, or otherwise unserviceable units as debris and dispose of.

Motor and machines:

Remove and salvage motors and machinery items associated with the plumbing, heating, air conditioning, refrigeration, and other

mechanical system installations. Salvage, box and store auxiliary units and accessories with the main unit.

Tag such items for identification, store, and protect from damage.

Transport salvaged items to designated storage area and store as directed by the Contracting Officer.

3.4.8 Electrical Equipment and Fixtures

Motors, motor controllers, and operating and control equipment must be salvaged and attached to the driven equipment.

Salvage wiring systems and components. Box and tag loose items for identification.

Primary, secondary, control, communication, and signal circuits must be disconnected at the point of attachment to their distribution system.

Fixtures:

Remove and salvage electrical fixtures. Remove unprotected glassware from the fixture and salvage separately.

Incandescent lamps, mercury-vapor lamps, and fluorescent lamps must be salvaged, boxed and tagged for identification, and protected from breakage.

Electrical devices:

Remove and salvage switches, receptacles, switchgear, transformers, regulators, meters, instruments, plates, circuit breakers, panelboards, outlet boxes, and similar items. Box and tag these items for identification according to type and size.

Conductors:

Remove and salvage conductors, including insulated wire and nonmetallic sheathed and flexible armored cable.

Conduit:

Salvage conduit, except where embedded in concrete or masonry. Consider corroded, bent, or damaged conduit as scrap metal. Sort and stockpile straight, undamaged lengths according to size and type.

Wiring ducts or troughs:

Remove and salvage wiring ducts or troughs. Plug-in ducts and wiring troughs must be disassembled into unit lengths. Plug-in or disconnecting devices must be removed from the busway and stored separately.

Miscellaneous items:

Classify supports, knobs, tubes, cleats, and straps as debris to be removed and disposed of.

3.4.9 Elevators and Hoists

Remove and salvage elevators, hoists, and similar conveying equipment as whole units, to the most practical extent. Remove and prepare items for salvage without damage to any of the various parts.

Rails for structural steel must be salvaged and stored with the equipment as an integral part of the unit.

3.5 DISPOSAL OF REMOVED MATERIALS

3.5.1 General

Dispose of debris, rubbish, scrap, and other non-salvageable materials resulting from removal operations in accordance with all applicable federal, state and local regulations as contractually specified [off the [_____] center] [_____]. Do not store removed materials on the project site.

3.5.2 Burning on Government Property

[Burning of materials removed from demolished structures is not permitted on Government property.]

[Combustible materials removed from demolished structures must be transported to the areas designated and disposed of by burning. Control fires to provide protection of persons and property. Continuously monitor burning fires until the fires have burned out or have been extinguished.

Comply with federal, state, and local laws regulating the building and maintaining of brush and trash fires.]

3.5.3 Removal to Spoil Areas on Government Property

Transport noncombustible materials removed from demolished structures to designated spoil areas on Government property.

3.5.4 Removal from Government Property

Waste materials removed from demolished structures, except waste soil, must be transported from Government property and legally disposed of. Dispose of waste soil as directed.

3.6 REUSE OF SALVAGED ITEMS

Salvaged materials and equipment designated for reuse must be reconditioned as specified [in Section [_____]] before installation. Repair or replace as necessary items damaged during removal and salvage operations to restore them to usable condition.

-- End of Section --